What Is Claimed Is:

1. An apparatus for providing auxiliary cooling and thermal stability to a temperature sensitive opto-electronic component, said apparatus comprising:

a primary thermal control system having a first thermal connection being thermally connected with a primary structure supporting at least one component of an optical system and a second thermal connection being thermally connected with an external environment; and

an auxiliary thermal control system having a first thermal connection being thermally connected with said temperature sensitive opto-electronic component, and said auxiliary thermal control system having a second thermal connection being thermally connected with said primary thermal control system whereby said auxiliary thermal control system provides cooling to said temperature sensitive opto-electronic component and said primary thermal control system provides additional cooling to said auxiliary thermal control system through temperature regulation of said primary structure.

2. Apparatus according to claim 1 further comprising an auxiliary structure configured to thermally isolate said temperature sensitive opto-electronic component from each of said primary thermal control system and said primary structure in thermal connection with said primary thermal control system.

3. Apparatus according to claim 1 wherein said first thermal connection between said auxiliary thermal control system and said temperature sensitive opto-electronic component is structurally compliant wherein said compliant thermal connection compensates for thermal expansion or contraction without effecting an optical alignment of said temperature sensitive opto-electronic component relative to said primary structure.

4. Apparatus according to claim 3 wherein said compliant thermal connection comprises a thermally conductive flexure.

5. Apparatus according to claim 3 wherein said compliant thermal connection comprises a set of

thermally connected, structurally independent intermeshed fins.

6. Apparatus according to claim 3 wherein said compliant thermal connection comprises a thermally conductive plate having structural flexibility means.

7. Apparatus according to claim 6 wherein said structural flexibility means comprise a corrugated plate.

8. Apparatus according to claim 3 wherein said compliant thermal connection comprises at least one flexible and thermally conductive strand.

9. Apparatus according to claim 1 wherein said primary structure supporting said at least one temperature sensitive component of an optical system comprises an optical platform.

10. Apparatus according to claim 1 wherein said auxiliary thermal control system comprises a thermo-electric device.

11. Apparatus according to claim 10 wherein said auxiliary thermal control system further comprises a temperature sensor.

12. Apparatus according to claim 11 wherein said temperature sensor of said auxiliary thermal control system has a strong thermal connection with said temperature sensitive opto-electronic component.

13. Apparatus according to claim 12 wherein said temperature sensor of said auxiliary thermal control system comprises a direct structural connection to said opto-electronic component.

14. Apparatus according to claim 1 wherein said primary thermal control system comprises a temperature sensitive thermo-electric device.

15. Apparatus according to claim 10 wherein said primary thermal control system further comprises a temperature sensor.

16. Apparatus according to claim 15 wherein said temperature sensor of said auxiliary thermal control system comprises a thermal connection with said primary structure supporting said at least one component of an optical system.

17. Apparatus according to claim 16 wherein said primary structure supporting said at least one component of an optical system comprises an optical platform.

18. Apparatus according to claim 15 wherein said temperature sensor of said primary thermal control system comprises a thermal connection with one of said at least one component supported by said primary structure.

19. Apparatus according to claim 1 wherein said auxiliary thermal control system further comprises a temperature sensor.

20. Apparatus according to claim 19 wherein said temperature sensor of said auxiliary thermal control system comprises a thermal connection with a thermo-electric device of said auxiliary thermal control system.

21. Apparatus according to claim 1 wherein said temperature sensitive opto-electronic component is alignment sensitive.

22. Apparatus according to claim 21 wherein said alignment sensitive opto-electronic component is aligned with one of said at least one component of said optical system.

23. Apparatus according to claim 3 wherein said opto-electronic component is aligned with one of said at least one component of said optical system.